REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application. Claims 31-57 and 61-71 were previously withdrawn from consideration, and are canceled without prejudice. Claims 58-60 are also canceled without prejudice. Claims 1-30 are pending in this application.

Drawings

Figure 6 of the drawings was objected to. As part of this response, a corrected Figure 6 is being submitted. Figure 6 illustrates an example image for a frame of video content (see, specification at p. 16, line 8). Image 270 has been labeled as such. Regions 272 and 274, and area 276, are regions and area of the image. Applicant respectfully submits that Figure 6 complies with 37 CFR § 1.83, and requests that the objection to the drawings be withdrawn.

Claim Objections

Claim 60 stands objected to due to informalities. As part of this response, claim 60 has been canceled without prejudice. Applicant respectfully requests that the objection to the claims be withdrawn.

35 U.S.C. § 112

Claims 9-10 and 19-26 stand rejected under 35 U.S.C. §112, second paragraph.

With respect to claim 9, "the selected segments" and "the portion" were indicated as having insufficient antecedent basis. With respect to "the portion",

this language has been amended to recite "a portion". With respect to "the selected segments", claim 9 recites "selecting, for each of the plurality of lines, the segment having the largest sum". Thus, as there are multiple lines and a segment is selected for each of the multiple lines, multiple segments are selected by this selecting. Accordingly, Applicant respectfully submits that there is proper antecedent basis for "the selected segments" in claim 9.

With respect to claims 19 and 26, claims 19 and 26 have been amended to correct the issues noted in the August 25, 2005 Office Action.

Accordingly, Applicant respectfully submits that claims 9-10 and 19-26 comply with 35 U.S.C. §112, second paragraph, and requests that the §112 rejections be withdrawn.

Claims With No Art Rejection

Claims 9, 10, and 19-26 were rejected under 35 U.S.C. §112, second paragraph, and Applicant respectfully submits that claims 9, 10, and 19-26 comply with 35 U.S.C. §112, second paragraph. No art rejection has been applied to claims 9, 10, and 19-26. Accordingly, Applicant respectfully submits that claims 9, 10, and 19-26 are in condition for allowance.

35 U.S.C. § 102

Claims 1-7, 13-16, and 58 stand rejected under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent No. 6,754,373 to de Cuetos (hereinafter "de Cuetos"). Claim 58 has been canceled without prejudice, thereby rendering the

rejection of claim 58 moot. Applicant respectfully submits that claims 1-7, and 13-16 are not anticipated by de Cuetos.

De Cuetos is directed to a system and method for activating a microphone based on visual speech cues (see, Title, and col. 1, lines 9-10). As discussed in the Abstract of de Cuetos, the system for activating a microphone based on visual speech cues includes a feature tracker coupled to an image acquisition device. The feature tracker tracks features in an image of a user. A region of interest extractor is coupled to the feature tracker. The region of interest extractor extracts a region of interest from the image of the user. A visual speech activity detector is coupled to the region of interest extractor and measures changes in the region of interest to determine if a visual speech cue has been generated by the user. A microphone is turned on by the visual speech activity detector when a visual speech cue has been determined by the visual speech activity detector. Methods for activating a microphone based on visual speech cues are also included.

With respect to amended claim 1, amended claim 1 recites:

> A method comprising:
> receiving a frame of content;
> automatically detecting a candidate area in the frame that may include a face;
> using one or more hierarchical verification levels to verify whether a human face is in the candidate area;
> indicating that the candidate area includes the face if the one or more hierarchical verification levels verify that a human face is in the candidate area; and
> using a plurality of cues to track each verified face in the content from frame to frame.

Applicant respectfully submits that no such method is disclosed in de Cuetos.

De Cuetos discusses an image difference operator that is employed to compare images to determine if there is a change in an image since a previous

image was captured (see, col. 3, lines 43-46). If an image change is detected, a face detector and feature tracker (face tracker) is invoked (see, col. 3, lines 50-51). The face tracker updates the face parameters if a face is detected (see, col. 3, lines 54-55). Otherwise, the face parameters are set to null (see, col. 3, lines 55-56). The face tracker extracts features from the latest image (frontal pose) and returns a tracked face with features, such as, for example, eyes, mouth, nostrils, etc. located in the frontal face (see, col. 3, lines 56-59).

In contrast, in amended claim 1 a candidate area in the frame that may include a face is automatically detected, and then whether a human face is actually in this candidate area is verified using the one or more hierarchical verification levels. No such technique is disclosed in de Cuetos. Although de Cuetos mentions a face detector and face tracker, there is no discussion or mention in de Cuetos of how the face detection is performed. Without any such discussion or mention, Applicant respectfully submits that de Cuetos cannot disclose automatically detecting a candidate area in the frame that may include a face, and using one or more hierarchical verification levels to verify whether a human face is in the candidate area as recited in amended claim 1.

Accordingly, for at least these reasons, Applicant submits that amended claim 1 is allowable over de Cuetos.

With respect to claims 2-7 and 13-16, given that claims 2-7 and 13-16 depend from amended claim 1, Applicant respectfully submits that claims 2-7 and 13-16 are likewise allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1.

Applicant respectfully requests that the §102 rejections be withdrawn.

35 U.S.C. § 103

Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over de Cuetos in view of U.S. Patent No. 6,539,099 to Kellner (hereinafter "Kellner"). Applicant respectfully submits that claim 8 is not obvious over de Cuetos in view of Kellner.

Kellner is directed to a system and method for video chat (see, Title). As discussed in the abstract of Kellner, a character image is read into memory representing a character a user wishes to be for the duration of the visual chat. Continuous frames of video images are then received, typically using video camera, which include image data of a person. The head image of the person is then tracked by the system, and portions of the head image are extracted from the video images. These extracted portions are preferably features of the person in the video image. Finally, the extracted portions of the head image are blended into corresponding areas of the character image, such that the features of the blended character image match the features of the person, and change as the features of the person change.

With respect to claim 8, claim 8 depends from amended claim 1 and Applicant respectfully submits that claim 8 is allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1. Furthermore, Kellner is not cited as curing, and does not cure, the deficiencies of de Cuetos discussed above. Accordingly, for at least these reasons, Applicant submits that claim 8 is allowable over de Cuetos in view of Kellner.

Claims 11 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over de Cuetos. Applicant respectfully submits that claims 11 and 17 are not obvious over de Cuetos.

With respect to claims 11 and 17, claims 11 and 17 depend directly or indirectly from amended claim 1 and Applicant respectfully submits that claims 11 and 17 are allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1. Accordingly, for at least these reasons, Applicant submits that claims 11 and 17 are allowable over de Cuetos.

Claim 12 stands rejected under 35 U.S.C. §103(a) as being unpatentable over de Cuetos in view of U.S. Patent No. 5,805,733 to Wang et al. (hereinafter "Wang"). Applicant respectfully submits that claim 12 is not obvious over de Cuetos in view of Wang.

Wang is directed to detecting scenes and summarizing video sequences (see, Title). As discussed in the Abstract of Wang, similar scenes are consolidated and represented by a representative frame, a number of which are displayed to a user. Scene changes are detected by comparing average color histograms for each scene, motion compensated pixel differences or motion compensated edge maps, or a combination of these methods. Scenes in the video sequence are selected for summarizing according to their normalized time duration. Of the selected scenes, similar or related scenes are determined by comparing the average color histograms of each pair of scenes in a moving window, using a standard population error measure, such as a Chi-squared test. For each set of related scenes, a representative frame is taken, either as the medial frame from the entire time duration of the related scenes or as the first frame of the medial scene in the

set. The representative frames are displayed to the user, wherein set of related scenes are retrieved by selecting the representative frame for the set. A movie bar, a visual representation of a rectangular prism, is displayed to show the relative length and positioning of the related scenes.

With respect to claim 12, claim 12 depends from amended claim 1 and Applicant respectfully submits that claim 12 is allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1. Furthermore, Wang is not cited as curing, and does not cure, the deficiencies of de Cuetos discussed above. Accordingly, Applicant submits that claim 12 is allowable over de Cuetos in view of Wang.

Furthermore, claim 12 recites:

> A method as recited in claim 1, wherein using one or more hierarchical verification levels comprises, as one of the levels of verification:
> generating a color histogram of the candidate area;
> generating an estimated color histogram of the candidate area based on previous frames;
> determining a similarity value between the color histogram and the estimated color histogram; and
> verifying that the candidate area includes a face if the similarity value is greater than a threshold value.

Applicant respectfully submits that no such method is disclosed by de Cuetos in view of Wang.

In the August 25, 2005 Office Action, Wang at col. 4, lines 9-35 is cited as disclosing the generating of a color histogram and an estimated color histogram, the determining, and the verifying of claim 12. Applicant respectfully disagrees and submits that Wang does not disclose the elements of claim 12.

The cited portion of Wang discusses a method of detecting scene changes (see, col. 4, lines 9-10). In this method, a scene change detector generates a color histogram for each frame, and a Chi-squared value is computed for each pair of adjacent frames to determine if their color histogram distributions are similar (see, col. 4, lines 12-20). If the Chi-squared value exceeds a threshold, then a scene change is detected (see, col. 4, lines 20-27).

Thus, it can be seen that the Chi-squared values calculated in Wang are used to detect scene changes. Nowhere in Wang is there any discussion or mention that that Chi-squared values are used to verify that a candidate area includes a face. Without any such discussion or mention, Applicant respectfully submits that Wang cannot disclose verifying that the candidate area includes a face if the similarity value between a color histogram and an estimated color histogram is greater than a threshold value.

With respect to de Cuetos, de Cuetos is not cited as curing, and does not cure, these deficiencies of Wang. Accordingly, for at least these reasons, Applicant submits that claim 12 is allowable over de Cuetos in view of Wang.

Claims 18, 27-28, and 59-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over de Cuetos in view of U.S. Patent No. 6,798,834 to Murakami et al. (hereinafter "Murakami"). Claims 59-60 have been canceled without prejudice, thereby rendering the rejection of claims 59-60 moot. Applicant respectfully submits that claims 18, and 27-28 are not obvious over de Cuetos in view of Murakami.

Murakami is directed to an image coding apparatus with segment classification and segmentation-type motion prediction circuit (see, Title). As

discussed in the Abstract of Murakami, a segmenting section divides an input image into a plurality of segments. A hierarchizing section determines classes of the respective segments according to a predetermined criterion, and produces a class identification signal indicating the classes of the respective segments. A coding section encodes the segmented image signal into code data while changing the value of a coding control parameter for each of the segments in accordance with the class identification signal. Examples of the coding control parameter are a coding time interval and precision of quantization.

With respect to claims 18, and 27-28, claims 18, and 27-28 depend from amended claim 1 and Applicant respectfully submits that claims 18, and 27-28 are allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1. Furthermore, Murakami is not cited as curing, and does not cure, the deficiencies of de Cuetos discussed above. Accordingly, for at least these reasons, Applicant submits that claims 18, and 27-28 are allowable over de Cuetos in view of Murakami.

Claims 29-30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over de Cuetos in view of Murakami and further in view of U.S. Patent No. 6,766,042 to Freeman et al. (hereinafter "Freeman"). Applicant respectfully submits that claims 29-30 are not obvious over de Cuetos in view of Murakami and further in view of Freeman.

Freeman is directed to a system to automatically detect eye corneal striae (see, Title). As discussed in the Abstract of Freeman, an automated eye corneal striae detection system for use with a refractive laser system includes a cornea illuminator, a video camera interface, a computer, and a video display for showing

possible eye corneal striae to the surgeon. The computer includes an interface to control the corneal illuminator, a video frame grabber which extracts images of the eye cornea from the video camera, and is programmed to detect and recognize eye corneal striae. The striae detection algorithm finds possible cornea striae, determines their location, or position, on the cornea and analyzes their shape. After all possible eye corneal striae are detected and analyzed, they are displayed for the surgeon on an external video display. The surgeon can then make a determination as to whether the corneal LASIK flap should be refloated, adjusted or smoothed again.

With respect to claims 29 and 30, claims 29 and 30 depend from amended claim 1 and Applicant respectfully submits that claims 29 and 30 are allowable over de Cuetos for at least the reasons discussed above with respect to amended claim 1. Furthermore, Murakami and Freeman are not cited as curing, and do not cure, the deficiencies of de Cuetos discussed above. Accordingly, for at least these reasons, Applicant submits that claims 29 and 30 are allowable over de Cuetos in view of Murakami and further in view of Freeman.
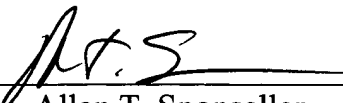
Applicant respectfully requests that the §103 rejections be withdrawn.

Conclusion

Claims 1-30 are in condition for allowance. Applicant respectfully requests reconsideration and issuance of the subject application. Should any matter in this case remain unresolved, the undersigned attorney respectfully requests a telephone conference with the Examiner to resolve any such outstanding matter.

Respectfully Submitted,

Date: _11/13/05_

By: _____
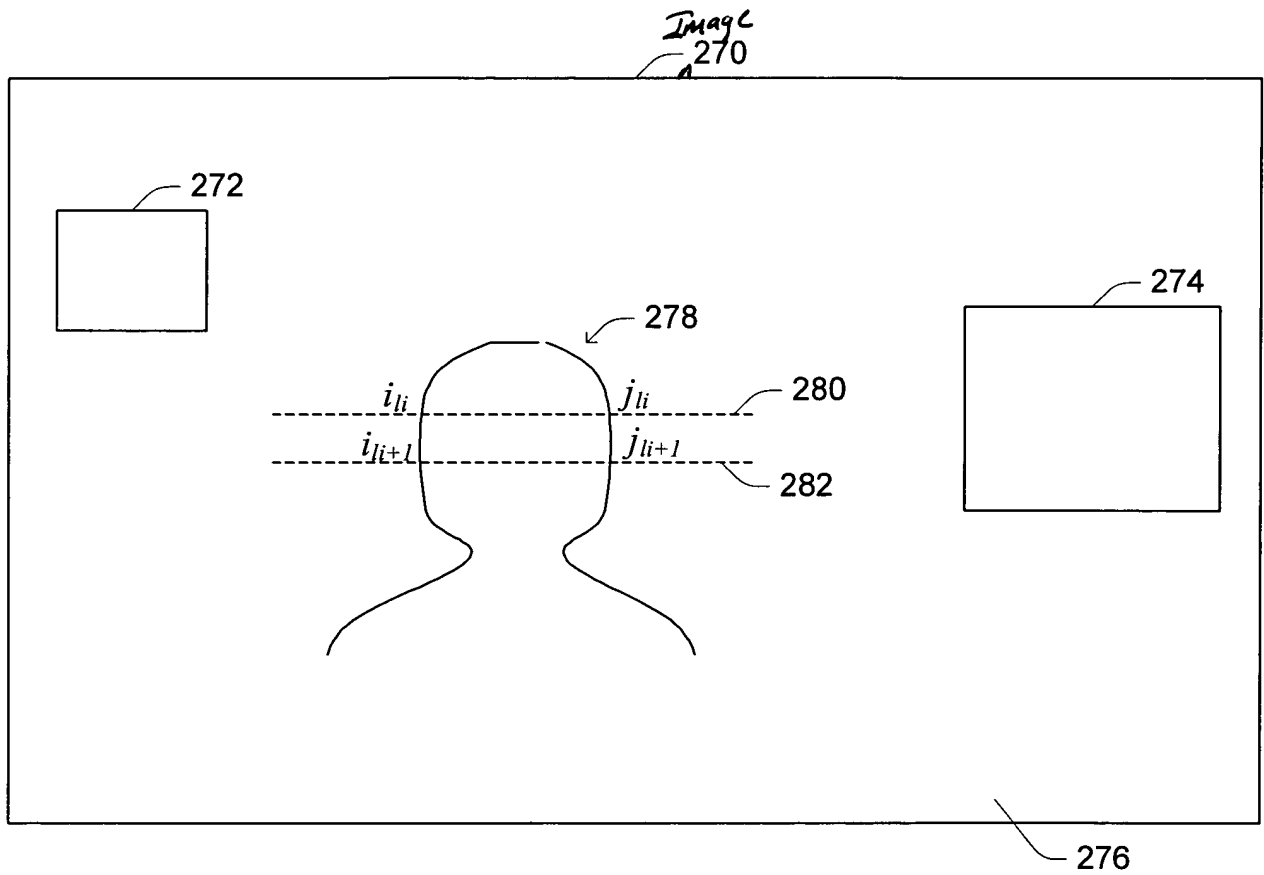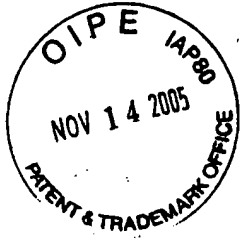Allan T. Sponseller
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Annotated Sheet

Fig. 6